

PATENT COOPERATION TREATY

Translation

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Applicant's or agent's file reference P 10758DUbe		FOR FURTHER ACTION See paragraph 2 below	
International application No. PCT/EP2004/051681	International filing date (day/month/year) 30.07.2004	Priority date (day/month/year) 06.08.2003	
International Patent Classification (IPC) or both national classification and IPC			
Applicant CONTINENTAL TEVES AG & CO.OHG			

1. This opinion contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I	Basis of the opinion
<input checked="" type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input checked="" type="checkbox"/>	Box No. VII	Certain defects in the international application
<input checked="" type="checkbox"/>	Box No. VIII	Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP	Authorized officer
Facsimile No.	Telephone No.

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Box No. I

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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Box No. II

Priority

1. ☒ The following document has not yet been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date in the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-53	YES
	Claims		NO
Inventive step (IS)	Claims	3-11, 16-21, 24, 27, 29, 31-37, 40-53	YES
	Claims	1, 2, 12-15, 22, 23, 25, 26, 28, 30, 38, 39	NO
Industrial applicability (IA)	Claims	1-53	YES
	Claims		NO

2. Citations and explanations:

1 In the present opinion, reference is made to the following documents:

D1: DE 197 50 977 A (DAIMLER CHRYSLER AG)

2 June 1999 (1999-06-02)

D2: DE 195 43 698 C (DAIMLER BENZ AG)

20 March 1997 (1997-03-20)

D3: DE 36 41 475 A (ALFRED TEVES GmbH) 16 June 1988 (1988-06-16)

D4: WO 95/28307 A (ITT AUTOMOTIVE EUROPE GmbH) 26 October 1995 (1995-10-26)

2 Document D1 is considered to be the closest prior art. It discloses all the features of the preambles of the independent claims 1, 13 and 38 from which the subject matters according to the invention differ through the characterizing features of the independent claims.

2.1 The subject matters of the independent claims 1, 13 and 38 are thus novel (PCT Article 33(2)).

3 The characterizing features of independent claims

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Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

propose three alternative actuation means for
switching the pedal travel simulator on and off.

3.1 In D1, when the brake-by-wire operating mode fails, a rigid connection is produced between the brake pedal and the master brake cylinder inlet tappet, in a passive manner by bringing the parts into contact after a small amount of idle travel.

3.2 The problem addressed by the present invention can therefore be considered that of reducing the idle travel when the brake-by-wire operating mode fails.

3.3 The solutions to this problem proposed in the independent claim 1 of the present application do not involve an inventive step (PCT Article 33(3)) because in the specialist area it is already known to actively reduce the idle travel when the brake-by-wire operating mode fails, see for example D2, column 1, lines 33 to 48, and column 1. The incorporation of such idle-travel-reducing means in D1 for solving the problem of interest is therefore obvious.

3.3.1 Electromechanical (figure 3) or electrohydraulic (figure 6) means are proposed as idle-travel-reducing means, cf. the present independent claims 1 and 13.

3.4 Although not explicitly mentioned in D2, it is perfectly clear to a person skilled in the art that a plurality of drive possibilities are present for

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the "means". D4 describes the equivalence of electromechanical actuators (figures 1 to 3), electrohydraulic actuators (figure 5) and (electro)pneumatic actuators (figure 4). Consequently, the subject matter of the independent claim 38 does not involve an inventive step either.

3.4.1 Furthermore, pneumatic actuators or drive possibilities which are suitable for actively reducing the idle-travel-reducing means and which operate with a partial vacuum are also known in the specialist field, see for example D3. cf. the present independent claim 38 [penultimate line: "preferably by means of a partial vacuum"] and the dependent claim 39.

4. The features of the dependent claims 2, 12, 14, 15, 22, 23, 25, 26, 28, 30 are disclosed either in D1 or D2 and thus cannot make any contribution to a subject matter involving an inventive step.

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Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

- On page 8, last paragraph, line 4, the word "preferably" should be inserted between "are" and "means";
- on page 9, paragraph 4, first line, the word "preferably" should be inserted at the end of the line;
- on page 10, penultimate paragraph, line 2, the expression "the present invention" should be replaced by "an advantageous development of the present invention";
- on page 11, paragraph 4, line 1, the word "preferably" should be inserted between "hysteresis" and "in";
- on page 13, last line, "8a" should be replaced by "14a" and "B" should be replaced by "A";
- on page 20, paragraph 3, line 7, the reference symbol "2" should be replaced by "14";
- the method of functioning of the appendix according to figure 9, in particular of the nonreturn valve 63 is unclear [page 21, paragraph 1, last sentence];
- the reference symbol "2" on page 23, line 8 is not present in figure 15;
- "figure 17" in the penultimate line of page 23 should read "figure 18";
- on page 24, line 4, the reference symbol "79" is used twice for difference features;
- on page 24, paragraph 2, line 1, "figure 18" should read "figure 17";
- the reference symbol "83" which is mentioned on page 24, paragraph 2, line 3 is not present in

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Box No. VII Certain defects in the international application

figure 17;

- on page 24, last line, the reference number "90"
should be "92".

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Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

- In claim 25, line 2 the references between the parentheses are missing;
- claim 31 contradicts the description: claim 31, line 8, "slave cylinder (69)" versus page 8, paragraph 3, line 6, "master cylinder";
- claim 32 contradicts the description: claim 32, line 2, "pedal travel simulator" versus page 8, last paragraph, line 1, "slave cylinder";
- claim 43 should presumably be dependent on one of claims 38 to 42. Otherwise it does not meet the requirements of PCT Rule 6.4;
- the present claims 49 to 52 should be inserted between the present claims 37 and 38, see also Rule 6.1(b);
- claims 53 should presumably be dependent on one of claims 38 to 52. Otherwise it does not meet the requirements of PCT Rule 6.4.